

**IN THE CLAIMS:**

Please amend claims 36 and 38 as follows:

**LISTING OF CURRENT CLAIMS**

**Claims 1-22. (Canceled)**

**23. (Previously Presented)** A method to control growth of a magnetic alloy-encapsulated carbon-base nanostructure, comprising:

microwave plasma electron cyclotron resonance chemical vapor depositing an additive and a catalyst on a substrate at a power of 500W - 5000W, a working pressure of less than  $5 \times 10^{-3}$  Torr, and under a magnetic field;

plasma pretreating said substrate by:

biasing with a direct current;

heat treating at a temperature of 400 °C - 850 °C; and

etching said substrate; and

reacting said substrate with a gas and post-treating under said magnetic field.

**24. (Previously Presented)** The method according to claim 23, wherein said catalyst and said additive comprise a magnetic metal or an alloy thereof.

**25. (Previously Presented)** The method according to claim 23, wherein said catalyst comprises a carbon-soluble metal, an alloy thereof, or a nonmetal.

**26. (Previously Presented)** The method according to claim 23, wherein said catalyst comprises a permanent magnetic rare earth element alloy having carbon

solubility.

**27. (Previously Presented)** The method according to claim 23, wherein said catalyst comprises a lanthanide or an alloy thereof.

**28. (Previously Presented)** The method according to claim 23, wherein said additive comprises copper, gold, platinum or a lanthanide.

**29. (Previously Presented)** The method according to claim 25, wherein said additive comprises copper, gold, nitrogen, chromium, boron, titanium, vanadium, zirconium, yttrium or a lanthanide.

**30. (Previously Presented)** The method according to claim 23, wherein plasma pretreating changes the size, shape and activity of said catalyst.

**31. (Previously Presented)** The method according to claim 23, wherein plasma pretreating controls the size, shape, and directional growth of said carbon-base nanostructure.

**32. (Previously Presented)** The method according to claim 23, wherein said substrate comprises a silicon wafer, a stainless steel or a quartz glass.

**33. (Previously Presented)** The method according to claim 23, wherein plasma pretreating further comprises physical vapor depositing, chemical vapor depositing, electrochemically plating, coating, or transfer printing.

**34. (Previously Presented)** The method according to claim 33, wherein said physical vapor depositing comprises sputtering or evaporating.

**35. (Previously Presented)** The method according to claim 33, wherein said chemical vapor depositing comprises plasma enhanced chemical vapor depositing.

**36. (Currently Amended)** The method according to claim 33 23, wherein said ~~electrochemically plating comprises plasma pretreating further comprises physical vapor depositing, chemical vapor depositing, coating, transfer printing, electroplating or electroless plating.~~

**37. (Previously Presented)** The method according to claim 33, wherein said coating said substrate with a metal salt or an alloy thereof of said catalyst comprises rotating coating or immersion plating, then heating said catalyst, and reducing with hydrogen.

**38. (Currently Amended)** The method according to claim 33, wherein said transfer printing ~~with a metal salt or an alloy thereof of said catalyst~~ comprises forming coating said catalyst on a rubber elastomer, contacting the substrate with said coated elastomer to transfer said catalyst on said substrate, then heating said catalyst, and reducing with hydrogen.

**39. (Previously Presented)** The method according to claim 33, wherein said

substrate comprises a catalyst metal thin layer or grain layer at a surface by a photo engraving process, an electron beam lithography, a printing, a transfer printing, or an ion implantation.

**40. (Previously Presented)** The method according to claim 23, wherein said substrate comprises a uniform thin layer pattern or a grain layer pattern.

**41. (Previously Presented)** The method according to claim 23, wherein said substrate comprises a non-uniform thin layer pattern or grain layer pattern.

**42. (Previously Presented)** The method according to claim 23, wherein said gas comprises a carbon-containing gas or a nitrogen-containing gas.

**43. (Previously Presented)** The method according to claim 42, wherein said carbon-containing gas comprises methane, ethane, propane, acetylene, benzene or a mixture thereof.

**44. (Previously Presented)** The method according to claim 42, wherein said nitrogen-containing gas comprises ammonia, nitrogen, an amine of methane, ethane, propane, acetylene, or benzene, or a mixture thereof.

**45. (Previously Presented)** The method according to claim 23, wherein said catalyst comprises iron, cobalt, nickel, an iron-platinum alloy, a cobalt-platinum alloy, silicon,  $\text{Nd}_2\text{Fe}_{14}\text{B}$ , or  $\text{Sm}(\text{Co}, \text{Cu})_5$ .